

Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

A radio discussion by W. R. Beattie, Bureau of Plant Industry, delivered in the Department of Agriculture period of the National Farm and Home Hour, broadcast by a network of 48 associate NBC radio stations, Tuesday, January 3, 1933. LIBRARY
U. S. DEPT. OF AGRICULTURE

I wonder how many of you have had the experience of going out some warm morning and finding that a decay had started overnight on your ripening peaches and that the disease was spreading all over your entire crop. Or perhaps you bought a basket of peaches on the market and the next morning you found that about half of the fruits had rotted overnight. If so, then you've made the acquaintance of the most troublesome disease of our stone fruits. It's the Peach Brown Rot and we find it almost everywhere in the United States where peaches, plums and cherries are grown. It's more destructive and difficult to control in the moist climate of the Eastern States than in the dryer western sections.

Peach brown rot is not a new disease, not by any means, and scientists have been working on it for over one hundred years. But it is only recently that we've been able to control it. In fact this disease is very hard to control in case we have warm, moist weather at the time our peaches, plums or cherries are ripening.

When the scientist sets out to find a remedy for any plant disease he first looks for its cause. He must learn the life history of the organism, where and how it spends the winter, at what time it comes out of its winter quarters, how it reproduces and spreads, what wild plants are affected by it, and finally what cultural practices or chemical treatment will control or destroy it.

In the case of the Peach brown rot the scientists found that it spends the winter on the old shriveled fruits or "mummies" that hang on the trees, on the rotted fruit remains left on the ground and on the cankers of the twigs and branches. It lives over winter on the wild plums and cherries or on wild seedling peaches that grow in the neighborhood of your fruit trees. It may live over on the Japonica that you have growing in your shrubbery border or on your Flowering Almond bush.

Dr. John W. Roberts and John C. Dunegan, scientific workers in our fruit disease section have published a new bulletin on Peach Brown Rot, in which they say that there are over forty wild and cultivated plants that may carry the brown rot fungus over the winter. That means that a cleanup of the wild plums, cherries, and other wild stone fruits in the neighborhood would help, but after all the old mummied fruits on the trees and those on the ground are the most important sources of reinfestation. It pays to gather these mummies and either bury them deep or burn them. This work can be done at any time during the winter when the weather will permit. The fallen fruits can be raked in piles then scooped into a wagon but those hanging on the trees must be gathered by hand.

By careful pruning you can remove many of the blighted twigs and cankers and this will lessen the danger of blossom injury at blooming time, for as you know the brown rot destroys many of the blossoms. A thorough cleanup is advisable but in case the weather is favorable for the development of brown rot at ripening time it will be necessary for us to spray or dust to protect our fruit. You

(over)

see the spray or dust forms a protective layer over the fruit that kills the fungus when the spores start to grow and send their roots into the fruit.

Roberts and Dunegan found that the spores of the fungus causing brown rot are shot into the air by the millions from the old mummied fruits that are left on the trees or on the ground. These spores settle upon the new fruits when they are nearing the ripening stage, and, if the weather should be warm and moist, the spores germinate very quickly, and their roots or mycelium bore right through the skin of the fruits, and it's only a matter of a day or two until the rot develops. The disease will spread from one fruit to another where the fruits touch each other, or, the spores will be transferred on your hands when you pick off the rotted fruits. Thinning the fruit in advance of ripening prevents the spread of the disease to some extent.

Certain varieties are more resistant to the disease than others. For example, some of the varieties of sweet cherries are very susceptible, while most of the sour cherries are fairly resistant. The same is true of peaches and plums, but under certain conditions of warmth and moisture, the rot is liable to attack the most resistant varieties. I have no doubt that some day we'll have varieties of all of the stone fruits that are immune to this and other diseases.

For the present we will have to depend mainly upon spraying and dusting to protect our peaches, plums and cherries from this disease. Spraying the fruit with self-boiled or dilute lime-sulphur solution, beginning the spraying at least a month before the fruit ripens is recommended, or, the fruit may be dusted with a special dusting sulphur.

As a rule, three or four dustings or sprayings will be required to control the brown rot. It is also recommended that about three special sprayings be applied at, or, immediately following the blooming period. I have been able to control this disease on my plums and cherries where I have applied the dusting sulphur with a hand operated dust gun, but, of course, I only have a small number of trees to dust. I would advise any of you who have this brown rot disease to contend with to see your county agricultural agent, or write to your State experiment station, or to the U. S. Department of Agriculture for special directions. Send your requests direct to me if you want to, and I'll see that they're taken care of, but don't wait until the brown rot appears on your fruit, as it will then be too late.

Roberts and Dunegan did a good piece of work when they summarized all of the work of investigators of Peach Brown Rot, and then published it along with the results of their own experiments in a bulletin. Their findings will be the means of saving fruit growers and dealers millions of dollars. In the meantime, these scientists are going right on looking for better methods of controlling the disease.